REMARKS

The present response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in form for allowance. By this paper, claims 6, 10 and 18 are amended, and claim 19 is cancelled without prejudice. Therefore, u8pon entry of this amendment, claims 6-7, 10-12, 15 and 17, 18 and 20 are pending in the application.

Response to Rejection of Claim 18

Claim 18 is directed to a nozzle adapted for mounting on the discharge chute of a walk-behind blower. In centrifugal-type blowers, the air velocity is generally higher in the lower (most distant radially) section of the shroud. This higher velocity air profile at ground level has a tendency to produce eddy currents and turbulence that cause the leaves and debris being blown by the blower air stream to spin upward and circle back. The inventive nozzle includes a restriction in an upper portion of the nozzle that increases the velocity of the air flowing through the upper region of the nozzle at the outlet end. This configuration improves lateral displacement of leaves by knocking the leaves down and reducing the amount of leaves that circle back as a result of eddy currents formed in the discharged air. More particularly, claim 18 is directed to a nozzle comprising, *inter alia*:

> wherein the shape of said channel at the inlet end is such that the cross-sectional area of an upper region of the channel located above a plane drawn midway between an upper wall and a lower wall of the nozzle body and parallel with the lower wall along the length of the channel is substantially equal to the cross-sectional area of a lower region of the channel below the plane at said inlet end, and wherein the shape of the channel changes between said inlet end and said outlet end because of a sloped region in said upper wall such that the cross-sectional area of the upper region of the channel at the outlet end is smaller than the cross-sectional area of the lower region of the channel at the outlet end causing air from said blower to travel at a higher velocity in the upper region of the channel than air passing through the lower region of the channel at the

outlet end thereby producing a variable airflow profile at the surface being swept with higher velocity air above lower velocity air that is conducive to lateral displacement of the debris.

Claim 18 in the application stands rejected as being unpatentable over Lauer et al. (U.S. Patent No. 6,253,416) in view of Stout. Jr. (U.S. Patent No. 6,548,760). Applicants respectfully traverse this rejection. Claim 18 is novel and patentable over the references of record, and particularly over the combination of Lauer et al. and Stout Jr., because the cited art does not show or suggest a nozzle having a channel shape such that the cross-sectional area at the inlet end of an upper region of the channel located above a plane drawn midway between an upper wall and a lower wall of the nozzle body and parallel with the lower wall along the length of the channel is substantially equal to the cross-sectional area of a lower region of the channel below the plane at said inlet end, and wherein the shape of the channel changes between said inlet end and said outlet end because of a sloped region in said upper wall such that the cross-sectional area of the upper region of the channel is smaller at the outlet end than the cross-sectional area of the lower region of the channel at the outlet end causing air from said blower to travel at a higher velocity in the upper region of the channel than air passing through the lower region of the channel at the outlet end as required by claim 18.

Lauer et al. discloses a walk-behind blower that has a maneuverable air stream director that can be controlled by the blower operator as the operator pushes the blower along a path of travel. The air stream director may be oscillated up and down to control the direction of the stream of air produced by the blower. The Examiner recognizes that Lauer et al. does not teach the discharge chute as having the claimed channel shape that causes air from the blower to travel at a higher velocity in the upper region of the channel than air passing through the lower region of the channel at the outlet end of claim 18.

The Examiner has turned to Stout Jr. for a "reducer that reduces down from a large cross-section (14) to a small cross section (20), and that such change in shape has an effect on the velocity of fluid going through it." However, this is exactly what is shown in Figure 7 of

the Lauer et al. reference. Both references disclose a nozzle that reduces down from a large cross-section to a small cross-section. However, the change in the shapes of the nozzle in Figure 7 of Lauer et al. and of the Stout Jr. reducer are both symmetrical about the plane between the upper and lower walls of the nozzle at the inlet end and along the length of the channel. As can be clearly seen, neither references teaches a nozzle that has a change in channel shape as required by claim 18 that would cause the air to travel at a higher velocity through the upper region of the channel than the air traveling through the lower region of the channel at the outlet end. Clearly, because the changes in the walls in the nozzle are symmetrical, the changes to the flow of air through the channel will also be substantially symmetrical.

The Examiner states that the teachings of Stout Jr. would provide the logic that an inverted reducer would increase velocity at an outer circumference relative the inner circumference of the channel at Col. 1, lines 35-39. What Stout Jr. actually teaches is as follows:

> Providing a gradual reduction with the frustoconical intermediate section is known to reduce the turbulence generated in a fluid traveling from the first section 512 to the second section 518 as the fluid velocity increases and/or the fluid is compressed. Similarly, the frustoconical intermediate section is known to reduce the turbulence generated in fluid as the fluid travels from the second section 518 to the first section 512 as the fluid velocity decreases and/or the fluid expands.

('760 Patent, Col. 1, lines 31-39).

Thus, Stout Jr. simply teaches that reducing the cross-sectional area of the channel causes the velocity of the fluid to increase and the shape of the channel affects the turbulence generated in the fluid. This can also be obtained from the teachings of Lauer et al. as well. Contrary to what the Examiner has stated, Stout Jr. does not teach that the reducer will cause the fluid to flow faster near the outer region and slower near the inner region of the reducer channel.

Furthermore, Stout Jr. clearly does not teach a channel that changes between its inlet end and its outlet end such that the cross-sectional area of the upper region of the channel is smaller than the cross-sectional area of the lower region of the channel thereby causing air from the blower to travel at a higher velocity in the upper region of the channel than air passing through the lower region of the channel at the outlet end as required by claim 18. Therefore, Stout Jr. fails to add anything whatsoever to the teachings of Lauer et al. As the Examiner has already agreed that Lauer et al. does not teach or suggest all of the limitations of claim 18, a *prima facie* case of obviousness has not been established. If the Examiner relying on common knowledge, evidence in the record to support this assertion has not been supplied.

The mere fact that a reference can be modified does not render the resultant modification obvious unless the prior art also suggests the desirability of the combination. See In re Mills, 916 F.2d 680 (Fed. Cir. 1990). Lauer et al. actually teach away from the need for a nozzle that produces a variable airflow profile at the surface being swept with higher velocity air above lower velocity air that is conducive to lateral displacement of the debris as required by claim 18. As Lauer et al. illustrate in Figs. 12 and 13, the blower allows the operator to rapidly change the vertical angle of the air steam coming from the nozzle to knock down the leaf stack instead of increasing the velocity through the upper region. As illustrated, the operator causes the leaf stack to loft as a result of the eddy currents in the air stream (shown by reference number 153). The operator then moves the nozzle into an upwardly biased position to direct the air stream against the upper portion of the stack to blow the leaves in the lateral direction. ('416 patent, col. 8, line 60-col. 9, line 26; Figs. 9-13). Thus, the Lauer et al. fail entirely to teach the desirability of a nozzle that is designed to produce a variable velocity profile that discourages the leaf stack from lofting as required by claim 18.

Accordingly, claim 18 is patentable over the cited art and prompt allowance of the claim is respectfully requested. Independent claims 6 and 10 contain limitations similar to those of claim 18 and are therefore likewise patentable over the cited art. Claims 7, 11-12, 15 and 17, depending directly or indirectly from one of claims 6, 10 or 18, are submitted as patentable over the cited references for at least the same reasons.

Conclusion

In view of the remarks made herein, Applicant submits that the claims presented herein are patentably distinguishable from the art applied and prompt allowance of the application is respectfully requested.

Should the Examiner determine that anything else is desirable to place this application in even better form for allowance, the Examiner is respectfully requested to contact the undersigned by telephone.

Respectfully Submitted,

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